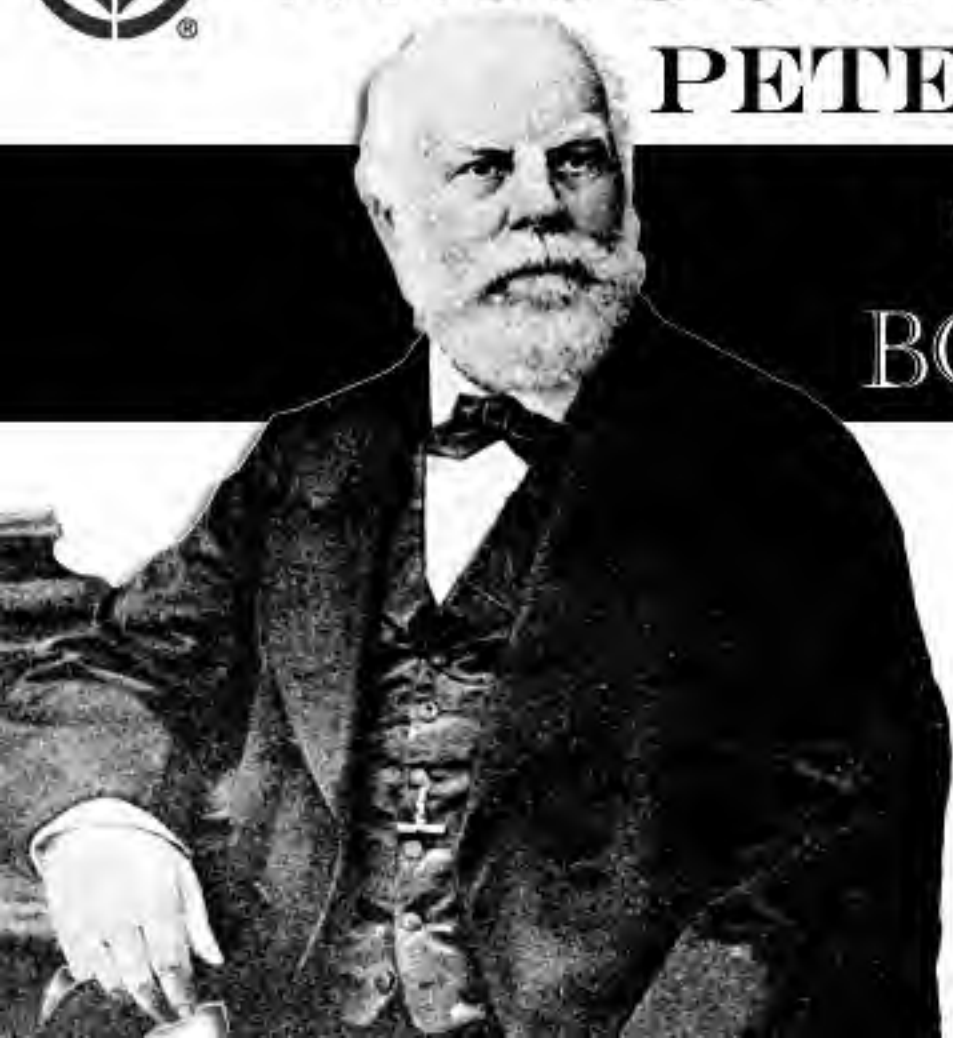




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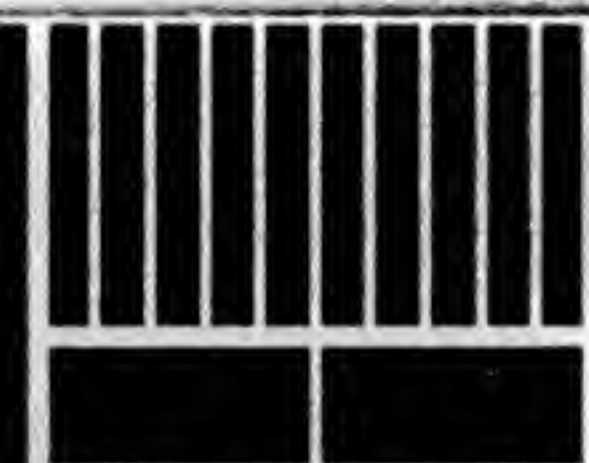
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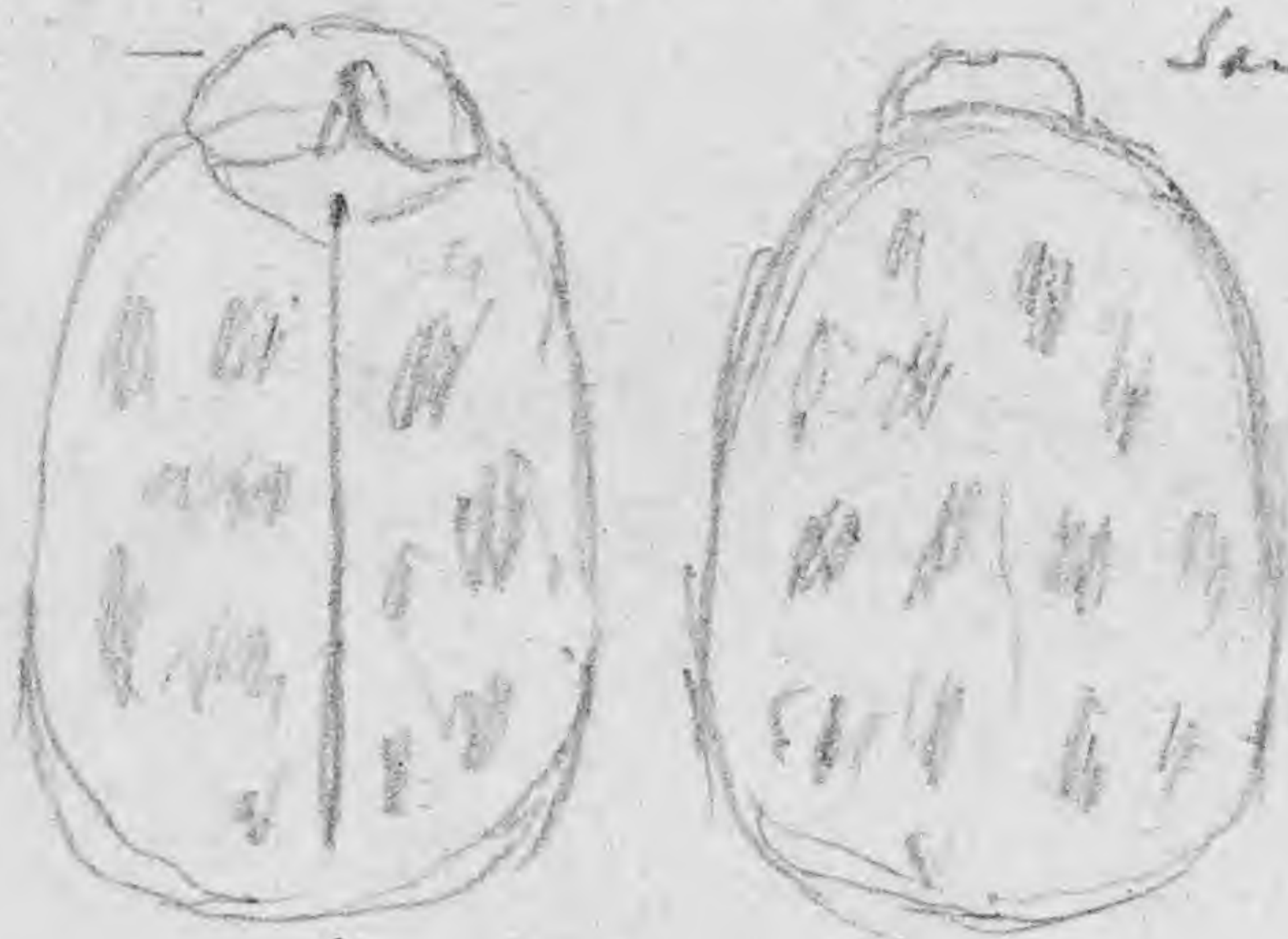
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*Euph. Palmeri*

Jan 6 1889

San Diego Co. Vasey



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LEITCH,

PHARMACEUTIST,

Fourth & Olive Sts. St. Louis, Mo.

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*E. Palmeri* has ~~sub~~ petiolulate leaves,

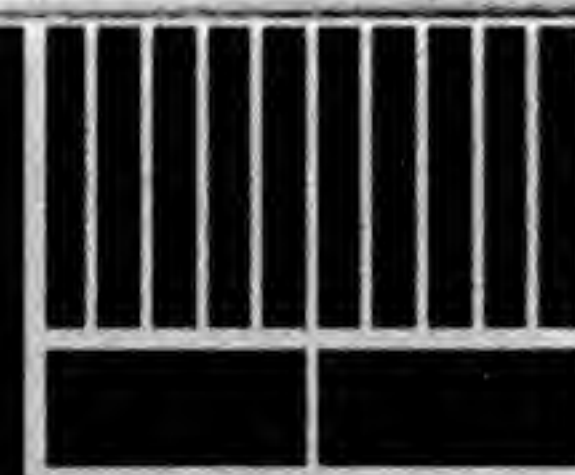
(in the Bentham specimen <sup>16</sup> sessile!)

obtus (as in sterile branch narrower, <sup>acute</sup> ~~transverse~~)  
lower floral leaves rhombic, upper ones broader

the long, obtuse (similar to *subpubescens*)  
in volume deeply hemispherical or capitate  
 $1\frac{1}{4}$  lin long, glands ovate & curvedly blunt-horned  
styles shorter than ovary

seeds oval thick  $1\frac{1}{2}$  lin long, with large cordate  
adpressed caruncles  
in Vasey's specimen

stems mostly simple, rarely a few branched ~~flowers~~



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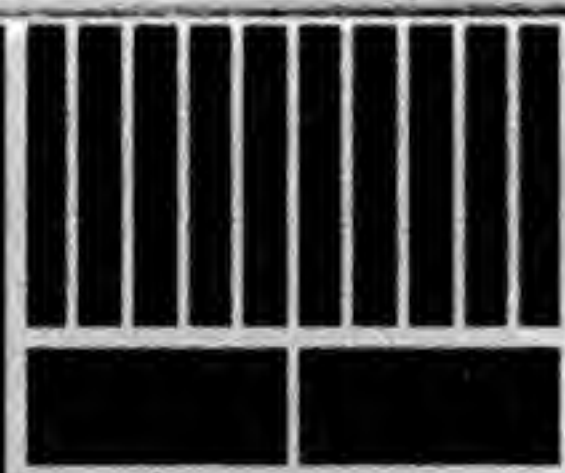
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*Euphorbia Pulchra*

April 18 1881

J. A. Vasey No 572

x 10



x 10



San Bernardino Mts

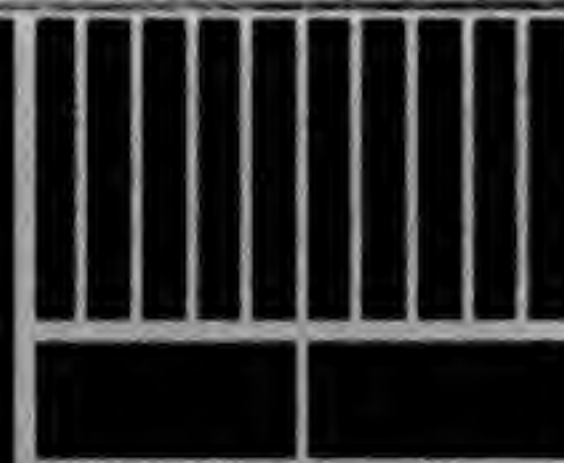


x 10

572 a.

San Diego Co

Seeds unripe  
rugose, with caruncles



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Leitch & Corlies

DRUGGISTS

South-west  
Corner Fifth  
and Market  
Streets

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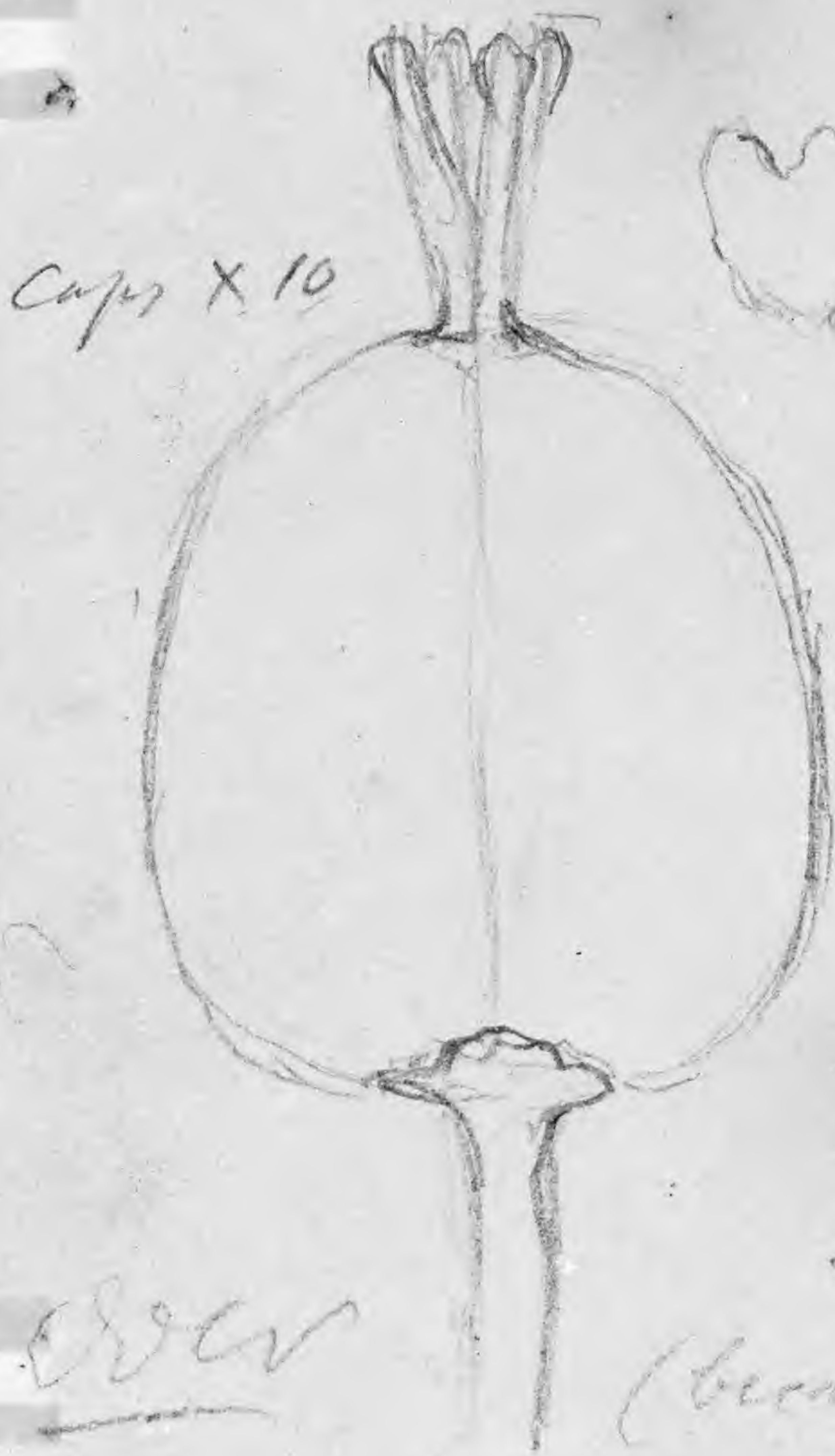
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over

*Euph. Palmeri* Engelm. n. sp.  
Bot Calif 2. 75

Jan 14 1876

Tally; South Calif - J. Palmer  
1876



caps X 10



x 10

inside

about 20 stamens



seed X 10



x 4

invol. sessil



style x 20  
united at base

rugose

2 multiculis, foliis ovatis

(because unripe?)

obtusis breviter petiolatis, super-

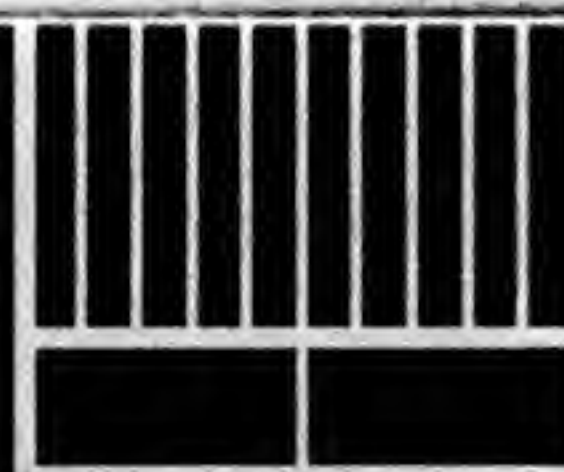
-ioribus rhombicis sessilibus

ramulis floriferis ex axillis emittentibus

umbellae 5-fidae ramulis bis bifidis

fol. involucris transverse ovatis, involucribus campanulatis, glandulis trans-

versis appendicibus crenatis, vix cornatis, lobis orbiculatis ciliatis - stam 20 - ov



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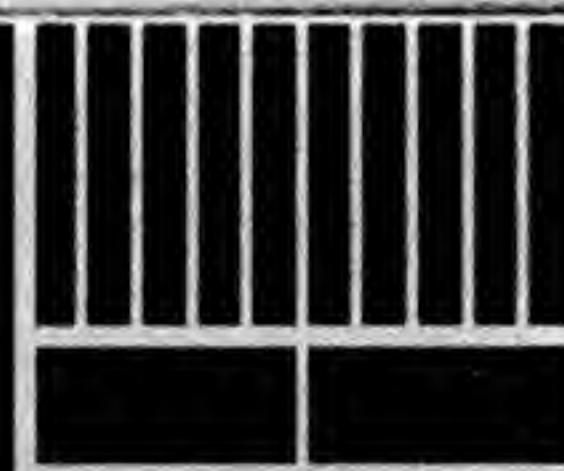
South West  
Corner Fifth  
and Market  
Streets.

stipes *botrytis* basi conatis ad med-  
 ias, apice immixtis  
 capsulae ovatae *botrytis* obtusis; sem-  
 inosa (matura?)

stem 9-15 inches high  
 fol. 6-9 lin long - caps. 2 lin long  
 sem 1 1/3 lin long - young leaves purple

on sterile *botrytis* leaves narrow  
 acute <sup>conspicuous</sup> and attenuated at base but  
 scarcely petioled

All. to schizoloba, which comes from  
 coast of the Colorado - but that has 3 rays  
 umbell, much larger involucre with glands  
 inside as large, and the umbels *trifoliate* lobes



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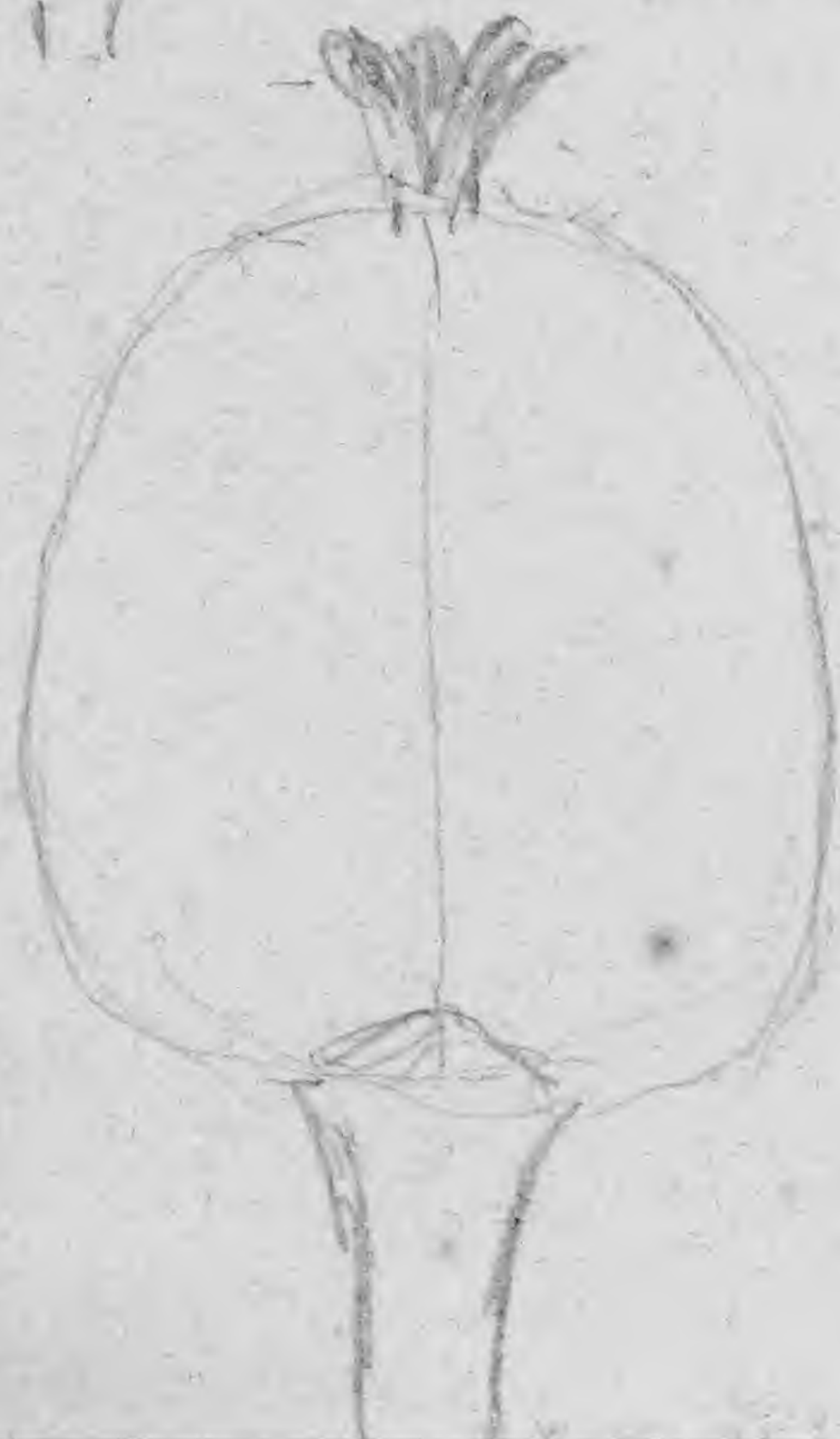
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*Ceph. peplofolia* Eng. Jan 11 1878  
 No 440 Palmer S. Utah 1877  
 = *Palmeri* near *rhizis* Loh



Capit  
 x10



x10



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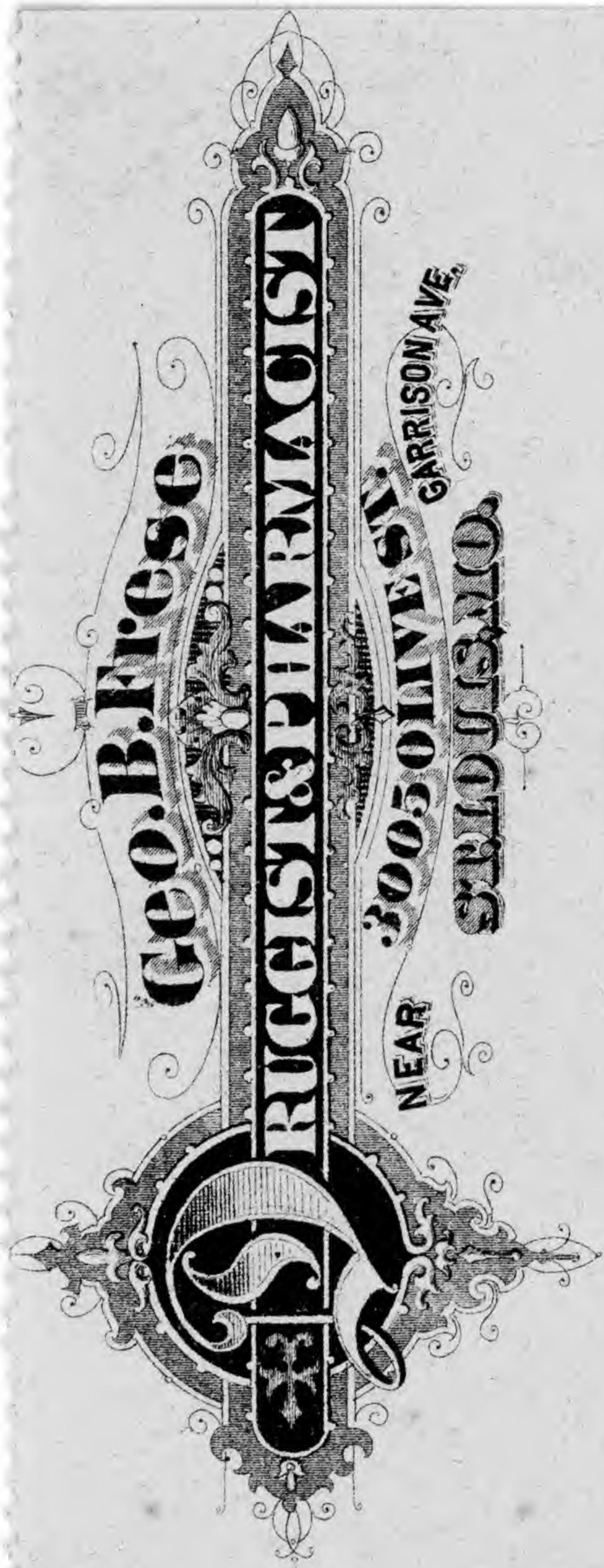
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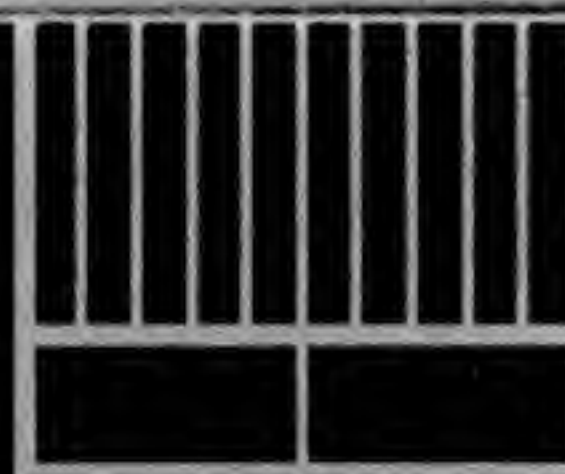
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investigation and discovery and there are but few of them that are wealthy, that have not collections of their own. My trip to Arkansas, also furnished Des Cloiseaux, with the purest material for the determination of his new species Microline, König's Hydrotitanite, Von Rath's new form of Rutile, etc.

I am selling Brookite and Rosettes of

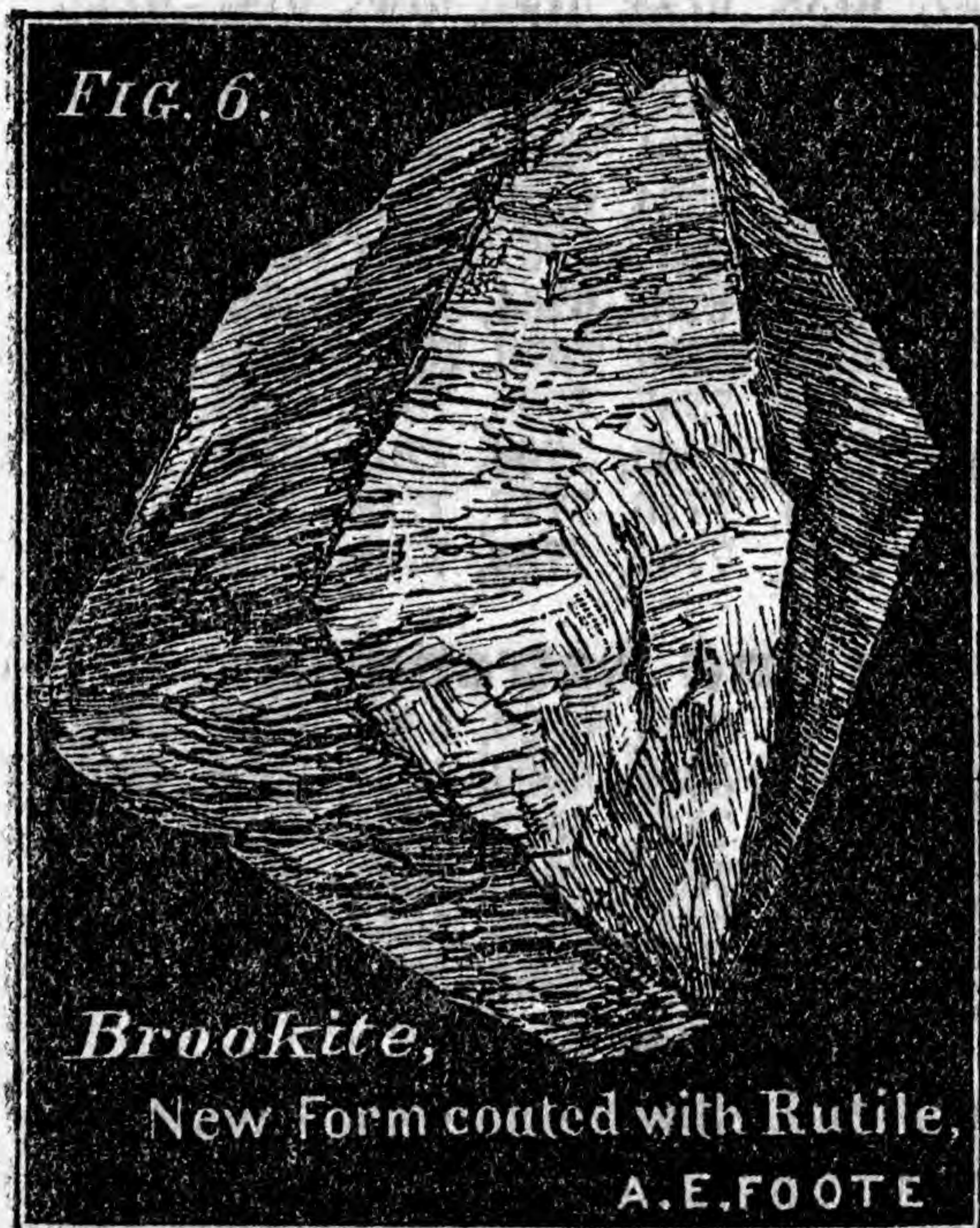


FIG. 6.

*Brookite,*

New Form coated with Rutile,

A.E. FOOTE

Menaccanite, 15 cts. to \$2. Other titanium minerals kept constantly in stock.



FIG. 3.

Rutile, Perovskite, etc., at less than one-tenth the price they were held at, when I visited the cove, in 1874. Good crystals of Brookite, 15 cts. to \$5 each; Rutile and Brookite, 25 cents per lb.; Hydrotitanite crystals 25 cts. to \$5; Schorlomite, 25 cts. to \$3;

paper, (or two) of somewhat greater diameter (10 c.m. greater diameter). This prevents any danger of the earth getting on to the first paper. Those precipitates which Bunsen burns on the wire while still damp are ready for incineration after five or six minutes on the earth.

This remarkable absorptive power makes an excellent lecture illustration. Two filter-papers are dipped in water and exhibited. One is then placed in a thick layer of the earth and firmly pressed. The adherent earth is then scraped from the paper by a stroke with a table-knife. The two papers are now shown side by side, and make a striking contrast.—P. TOWNSEND AUSTEN, in *Chemical News*.

Richmond infusorial earth, 25c. per lb.

Nevada " " 50c. per lb.

As it is very light, 1 lb. will last a long time.

### Tantalite.

From Coosa County, Alabama, its mode of occurrence and composition; by J. Lawrence Smith, Louisville, Ky. (*Amer. Journ. of Science and Arts*, March, 1878.)

While columbite has been long known from a number of localities in the United States and at some of them it is found in great abundance, the related mineral tantalite has never been identified, until recently I proved the fact of its occurrence in Alabama.

It is found in Coosa County, Alabama, detached from any rock, lying loose with "boulders" (as Judge Bently calls them) of granite more or less disintegrated. As, however, this region belongs to the older series of rocks (Professor Eugene Smith, who furnished the first material to me, has not yet explored it) these blocks of granite are doubtless not boulders, but detached masses



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**The Naturalist's Museum.**

"The growing demand for objects of Natural history on the part of colleges, schools, students and amateurs has led a few years ago to the establishment of the Natural History Museum of Professor A. E. Foote, situated on Belmont Avenue in Philadelphia. Already in a former issue we took occasion to refer to the great service the professor rendered to science by this timely step, and also to his great and persevering efforts in making it a model institution. In this, we are happy to say, he has completely succeeded. His spacious building well adapted for the purpose, abounds in rich and choice collections illustrative of the various departments in natural history; whilst his facilities for collecting specimens and his arrangements for supplying the demand are admirable. Of the many collections, gathered from almost every part of the globe, we will, for want of space, refer only to his immense collections of minerals, upon which an unusual amount of care, labor and money has been spent. Imagine a display of more than 100,000 specimens of choice minerals well arrayed and classified. What a sight! The greatest part of these are collected by experienced persons employed by the professor in the United

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5544, 5547, 5548, 5550, 5551, 5555, 5558, 5559, 5560, 5561,  
5563, 5564, 5565, 5566, 5568, 5569, 5571, 5572, 5575, 5576,  
5582, 5583, 5588, 5589, 5592, 5595, 5599, 5603,



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*Euph. subpubens* Engelm., name only in *Arct. Bot. Calif.* 2. 76

gibrous; simple  
several stems a span high from a stout root stock; <sup>small, 3-6 l. long</sup> <sup>around</sup>  
~~leaves~~ with numerous leaves; leaves <sup>small, 3-6 l. long</sup> orbicular - obovate,  
obtus, sessile with a narrow base; <sup>the lowest</sup> <sup>much the smallest</sup>  
umbell 5-rayed; <sup>long</sup> floral leaves orbicular,  
app. long transverse, much broader than the long,  
setae or cernuities;

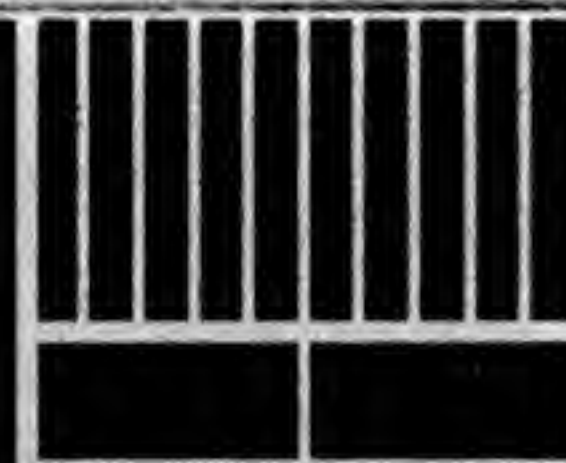
involucres hemispherical,  $\frac{1}{2}$  l. long, glands distinct,  
lobes <sup>outer</sup> ciliate; styles united at base, ~~shorter~~ than ovary.

fruit —

Prescott, Arizona, Dr. Palmer 1876

well characterized besides the pubescence by the  
very short round leaves and transverse flesh  
leaves.

for figure see herbarium



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Dear Dr. Engelman,

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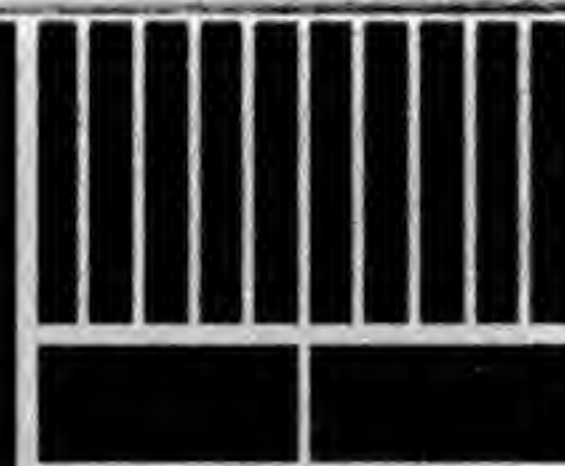
Can this  
Euphorbia be *E. adenoptera*,  
Berth. ? It is exactly like  
1447<sup>c</sup> Coulter, which is put  
under that species, but it looks  
to me peculiar.

Here is a Croton too that  
is unlike anything that we  
have, and I do not succeed  
in locating it by Müller in  
ex. Prodrumms.

= *C. corymbulosus* Engelm

Yours very truly

Frederick Watson



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203  
m. sp. Boyle  
Moller Coy

## CONTENTS AND CLUB RATES OF NATURALIST'S LEISURE HOUR.

You are respectfully requested to hand the LEISURE HOUR to a nature-loving friend, when you do not wish to preserve it longer. By so doing you will confer a double favor.

A SHORT time since, I received from a lady in a small town in Ohio, a club of sixty subscribers. The lady was an utter stranger to me, and my establishment, yet she raised this club within a few days after she had herself received the first LEISURE HOUR.

There is probably not a town of 2,000 inhabitants in the country, where a similar club might not be raised, and if each person to whom this number is sent would but exert themselves, the subscription list might be quadrupled, and the interesting reading matter in the LEISURE HOUR, quadrupled by the first of next January. I firmly believe that the good influence of sixty copies of the LEISURE HOUR, among the young people of a town of 2,000 inhabitants, could not be overestimated.

Of course I have no claim on anyone because I send them the paper, but I hope that the fact that a reading of the NATURALIST'S LEISURE HOUR, and the love of nature induced thereby, will supplant the reading of "blood and thunder weeklys," and the collecting of postage stamps and autographs, will induce all who receive this to exert themselves somewhat in my behalf. The fact also that I am striving to build up a great retail depot of Natural History Supplies, where scientific men may find the material that is almost indispensable to their studies, entitles my enterprise to the favorable consideration of all educators, scientific and medical men. If I can double my subscription list by next January, I shall increase the size of the NATURALIST'S LEISURE HOUR, to 32 pages. I can offer the following exceedingly favorable rates for new subscribers.

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Attention is called to the fact that many original articles describing new species have been published.

1877, JANUARY.—*Huxley*, on importance of studying Nat. Hist. Proustite, &c., illus.

FEBRUARY.—Natural Objects a Source of the Highest Pleasure, *Huxley and Ruskin*; Prehistoric Relics, illus.

MARCH.—Nature and the Child, *Longfellow*; The Love of Money the Root of all Evil; Chilian Minerals, illus.; Astrophyllite, *König*, illus., &c., &c.

APRIL-MAY.—Catalogue of Shells; Paramorphosis of Rutile after Brookite, *Vom Rath*; Variscite, *Chester*; Gems and Ornamental Stones, Jet, Vivianite, &c., &c., illus.

JUNE-JULY.—Columbic Acid Minerals, *J. L. Smith*; Protovermiculite, *König*; Microcline, Dufrenite, Labradorite, Spinel; Permanent Exhibition; New Species List, &c., &c., illus.

AUGUST-SEPTEMBER.—*Genth* on Tellurium Minerals; Meteorite Greenland, Quartz, Amber, Mellite, &c.

OCTOBER.—*Genth*, on Tellurium Minerals, Amethyst, Collections, &c.; *Travelli*, on Permanent Exhibition.

NOVEMBER.—*Cope*, on Ichthyic Fauna, &c.

DECEMBER.—Ankerite, *König*; Lavendulite,



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*Euphorbia mollis* n. sp. Eng.

Jan 6 1882

(*E. mollis* Griseb. & (pabescens))

Arizona Pinal

San Catalina Mts.

glans = *E. Polymorpha*

x 10



glans spread out

x 10



x 10



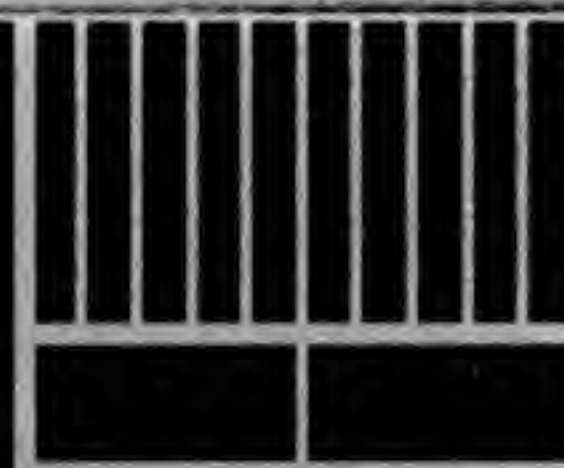
glans curled up  
removed



seed without  
caruncle  $1\frac{1}{2}$  lines long

seeds gray, oval  
with numerous  
small black shallow  
impressions, wormlike  
caruncles at

over



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*nollis gracilis*  
= *pulosa*

ALEX. LEITCH,

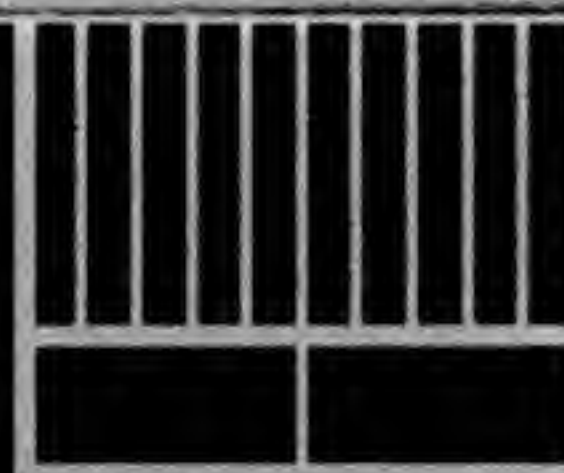
APOTHECARY & PHARMACEUTIST,

Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.

*Euph. nollis* softly pubescent  
several stems, a foot high, from a stout rhizome  
open with sterile branches from the lower part  
ovate or <sup>1 inch or less</sup> length, 4-5 l. wide  
leaves obovate acute, attenuated into a short petiole,  
often recurved lower broader  
Husell 5-angled, floral leaves oval longer than wide  
upper ones nearly stem-borne, obtuse at both ends  
involucres (tubercles, narrowly)  $\frac{1}{2}$  l. long. gland  
with 2 short black hairs and between the tubercles,  
soon recurved; styles united at base, branches divided 5  
with the hairy rather longer than the <sup>pubescent</sup> young; seeds  
thick oval  $\frac{1}{4}$  lin with rather large <sup>coat</sup> caruncle, ash gray with  
numerous small black shallow impressions of anastomosing  
veins; ( $\frac{1}{4}$  lin long).  
This and *pubescens* are the only <sup>pubescent</sup> *Euphorbia* of our  
flora.

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*C. odontadenia*

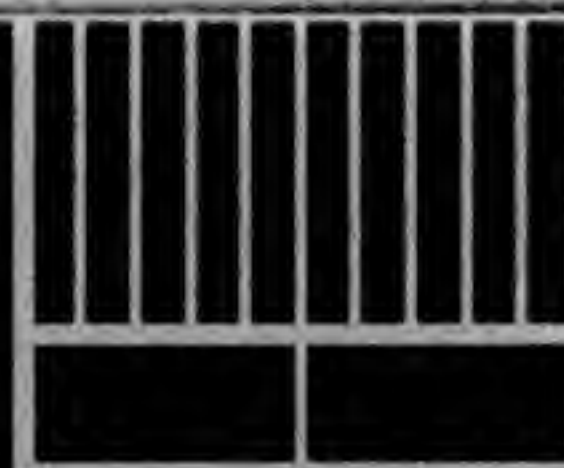
Jan 6 1882

wright 661



Seed oval, gray,  
with rather regular  
small dark impressions  
more on the back,  
larger, paler and  
fewer on the ventral  
side; coronula  
large bilobed, erect.

seed  $1\frac{1}{4}$  line long



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ALEX.  
APOTHECARY &  
Marble Building Cor. For

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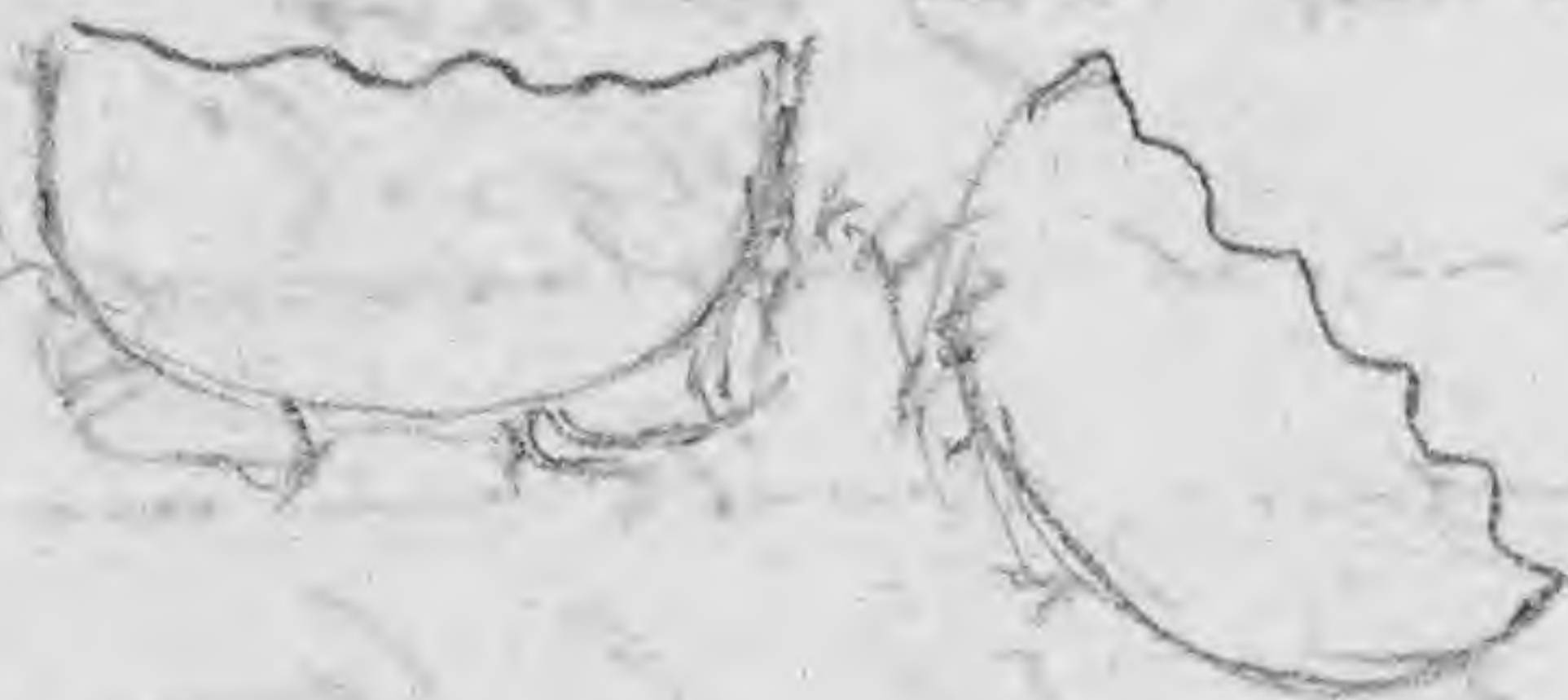
*Euphorbia Spineflora* herb. *Euphorbia*  
 Santa Rita Mts. Arizona.

Jan 6 1882  
 Pryle 138

x 10

x 10

glands = papillophylla



seed 2 line  
 long

seeds cylindrical obly.  
 with small erect caruncle  
pointed at the lower end  
 dark, with very very shallow  
 darker impressions principally  
 on the back



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*Euphorbia*

*Shiromite* Many stems a span high from a stout  
vertical (black when dry) *Shiroma*, branching only at base  
very glabrous, <sup>scabrid</sup> very leafy; leaves minute oblanceolate, alternate  
at base short mucronate; 1 inch long or less,  $\frac{1}{4}$  as wide  
~~seeds~~ <sup>about</sup> small 3-5 rayed; covered <sup>floral</sup> involucre leaves  
obovate, appearing nearly thimble-like, with an acute  
base; involucres tuberculate  $\frac{1}{2}$  l. long  
glabrous truncate obtusely dentate; lobes hairy islets  
strongly united at base  $\frac{1}{3}$  branches div. to middle  
a little longer than ovary; seeds oblong-ovoid <sup>2 lines by</sup>  
apiculate at base with a small caruncula  
dark, with very <sup>minors</sup> shallow darker depression, more  
on the back the ventral side.

The colored *Euphorbia* of the S.W. have a considerable  
family likeness in their mode of growth, dentate involucres  
glabrous, mottled but scarcely pitted seeds.

The point of the lower end of seed is quite flattened  
of constant; all the allied species have rounded or retuse base  
of seed.



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